Contents of Volume 36

Vol. 36, No. 1, January (I) 1998

Review

Plant *O*-methyltransferases: molecular analysis, common signature and classification
R.K. Ibrahim, A. Bruneau, B. Bantignies **1–10**

Original articles

The photosystem II subunit CP29 can be phosphorylated in both C3 and C4 plants as suggested by sequence analysis
E. Bergantino, D. Sandonà, D. Cugini, R. Bassi **11–22**

Molecular cloning of a novel fimbrin-like cDNA from *Arabidopsis thaliana*
D.W. McCurdy, M. Kim **23–31**

Cloning and molecular characterization of a strawberry fruit ripening-related cDNA corresponding a mRNA for a low-molecular-weight heat-shock protein
N. Medina-Escobar, J. Cárdenas, J. Muñoz-Blanco, J.L. Caballero **33–42**

Stress responses in alfalfa (*Medicago sativa* L.) XXII. cDNA cloning and characterization of an elicitor-inducible isoflavone 7-*O*-methyltransferase
X.-Z. He, J.T. Reddy, R.A. Dixon **43–54**

Prosystemin from potato, black nightshade, and bell pepper: primary structure and biological activity of predicted systemin polypeptides
C.P. Constabel, L. Yip, C.A. Ryan **55–62**

Cloning and expression of two genes encoding auxin-binding proteins from tobacco
S. Watanabe, S. Shimomura **63–74**

Purification, regulation and cloning of a glutathione transferase (GST) from maize resembling the auxin-inducible type-III GSTs
D.P. Dixon, D.J. Cole, R. Edwards **75–87**

Structural analysis of the *nit2/nit1/nit3* gene cluster encoding nitrilases, enzymes catalyzing the terminal activation step in indole-acetic acid biosynthesis in *Arabidopsis thaliana*
H. Hillebrand, D. Bartling, E.W. Weiler **89–99**

An epidermis/papilla-specific oxalate oxidase-like protein in the defence response of barley attacked by the powdery mildew fungus
Y. Wei. Z. Zhang, C.H. Andersen, E. Schmelzer, P.L. Gregersen, D.B. Collinge, V. Smedegaard-Petersen, H. Thordal-Christensen **101–112**

Implication of 5′-flanking sequence elements in expression of a plant $tRNA^{Leu}$ gene
N. Choisne, V.T.C. Carneiro, G. Pelletier, I. Small **113–123**

Conserved Ser residues in the basic region of the bZIP-type transcription factor HBP-1a(17): importance in DNA binding and possible targets for phosphorylation
T. Meshi, I. Moda, M. Minami, M. Okanami, M. Iwabuchi **125–136**

Isolation, characterization and mRNA expression of four cDNAs encoding translation elongation factor 1A from rice (*Oryza sativa* L.)
S. Kidou, S. Ejiri 137–148

Comparative analysis of the nucleosomal structure of rye, wheat and their relatives
A.V. Vershinin, J.S. Heslop-Harrison 149–161

Nonsense and missense translational suppression in plant cells mediated by $tRNA^{Lys}$
Z. Chen, B. Ulmasov, W.R. Folk 163–170

A matrix-located processing peptidase of plant mitochondria
C. Szigyarto, P. Dessi, M.K. Smith, C. Knorpp, M.A. Harmey, D.A. Day, E. Glaser, J. Whelan 171–181

Genetic and biochemical evidence for distinct key functions of two highly divergent GAPDH genes in catabolic and anabolic carbon flow of the cyanobacterium *Synechocystis* sp. PCC 6803
O. Koksharova, M. Schubert, S. Shestakov, R. Cerff 183–194

Vol. 36, No. 2, January (II) 1998

The activities of acidic and glutamine-rich transcriptional activation domains in plant cells: design of modular transcription factors for high-level expression
C. Schwechheimer, C. Smith and M.W. Bevan 195–204

Analysis of T-DNA-mediated translational β-glucuronidase gene fusions
S. Kertbundit, R. Linacero, P. Rouzé, I. Galis, J. Macas, F. Deboeck, S. Renckens, J.-P. Hernalsteens and H. De Greve 205–217

A flavonoid 7-*O*-methyltransferase is expressed in barley leaves in response to pathogen attack
A.B. Christensen, P.L. Gregersen, C.E. Olsen and D.B. Collinge 219–227

Editing site recognition in plant mitochondria: the importance of 5′-flanking sequences
M.A. Williams, B.M. Kutcher and R.M. Mulligan 229–237

Simultaneous accumulation of multiple viral coat proteins from a TEV-NIa based expression vector
M. Fernanda Ceriani, J.F. Marcos, H. Esteban Hopp and R.N. Beachy 239–248

The molecular and functional characterization of an *Opaque* 2 homologue gene from *Coix* and a new classification of plant bZIP proteins
A.L. Vettore, J.A. Yunes, G.C. Neto, M.J. da Silva, P. Arruda and A. Leite 249–263

Differential regulation of 1-aminocyclopropane-1-carboxylate synthase gene family and its role in phenotypic plasticity in *Stellaria longipes*
A. Kathiresan, K.C. Nagarathna, M.M. Moloney, D.M. Reid and C.C. Chinnappa 265–274

The structure and organization of the luciferase gene in the photosynthetic dinoflagellate *Gonyaulax polyedra*
L. Li and J. Woodland Hastings 275–284

Complete sequence of the mitochondrial DNA of *Chlamydomonas eugametos*
E.M. Denovan-Wright, A.M. Nedelcu and R.W. Lee 285–295

Two maize genes encoding ω-3 fatty acid desaturase and their differential expression to temperature
T. Berberich, M. Harada, K. Sugawara, H. Kodama, K. Iba and T. Kusano 297–306

The sequence and structure of the 3′-untranslated regions of chloroplast transcripts are important determinants of mRNA accumulation and stability
R. Rott, V. Liveanu, R.G. Drager, D.B. Stern and G. Schuster **307–314**

Short communications

Multiple genes encoding serine/threonine protein phosphatases and their differential expression in *Nicotiana tabacum*
M.C. Suh, H.S. Cho, Y.S. Kim, J.R. Liu and H.-S. Lee **315–322**

Analysis of the isopentenyl diphosphate isomerase gene family from *Arabidopsis thaliana*
M. Campbell, F.M. Hahn, C.D. Poulter and T. Leustek **323–328**

Sequence announcement **329**

Vol. 36, No. 3, February 1998

Publisher's notice **v**

Three *cis*-elements required for rice α-amylase *Amy3D* expression during sugar starvation
Y.-S. Hwang, E.E. Karrer, B.R. Thomas, L. Chen and R.L. Rodriguez **331–341**

Expression of extensin genes is dependent on the stage of the cell cycle and cell proliferation in suspension-cultured *Catharanthus roseus* cells
M. Ito, H. Kodama, A. Komamine and A. Watanabe **343–351**

Characterization and transcriptional regulation of the *Synechocystis* PCC 6803 *petH* gene, encoding ferredoxin-NADP$^+$ oxidoreductase: involvement of a novel type of divergent operator
J.J. van Thor, K.J. Hellingwerf and H.C.P. Matthijs **353–363**

Transcriptional activation of the tobacco retrotransposon *Tto1* by wounding and methyl jasmonate
S. Takeda, K. Sugimoto, H. Otsuki and H. Hirochika **365–376**

Amino acid carriers of *Ricinus communis* expressed during seedling development: molecular cloning and expression analysis of two putative amino acid transporters, *RcAAP1* and *RcAAP2*
J.-A. Bick, A. Neelam, J.L. Hall and L.E. Williams **377–385**

Excision of *Ds1* from the genome of maize streak virus in response to different transposase-encoding genes
W.-H. Shen, C. Ramos and B. Hohn **387–392**

Cloning of three A-type cytochromes P450, CYP71E1, CYP98, and CYP99 from *Sorghum bicolor* (L.) Moench by a PCR approach and identification by expression in *Escherichia coli* of CYP71E1 as a multifunctional cytochrome P450 in the biosynthesis of the cyanogenic glucoside dhurrin
S. Bak, R.A. Kahn, H.L. Nielsen, B. Lindberg Møller and B.A. Halkier **393–405**

A class III acidic endochitinase is specifically expressed in the developing seeds of soybean (*Glycine max* [L.] Merr.)
N.A. Yeboah, M. Arahira, V.H. Nong, D. Zhang, K. Kadokura, A. Watanabe and C. Fukazawa **407–415**

Isolation and characterization of two knotted-like homeobox genes from tomato
B.-J. Janssen, A. Williams, J.-J. Chen, J. Mathern, S. Hake and N. Sinha **417–425**

cDNA cloning, substrate specificity and expression study of tobacco caffeoyl-CoA 3-*O*-methyltransferase, a lignin biosynthetic enzyme
F. Martz, S. Maury, G. Pinçon and M. Legrand **427–437**

Senescence-induced RNases in tomato
A. Lers, A. Khalchitski, E. Lomaniec, S. Burd and P.J. Green **439–449**

Isolation and characterization of two cyclin-like cDNAs from *Arabidopsis*
I.S. Day and A.S.N. Reddy **451–461**

The *Arabidopsis AUX1* gene: a model system to study mRNA processing in plants
A. Marchant and M.J. Bennett **463–471**

Short communications

Isolation and analysis of a gene *bbe1* encoding the berberine bridge enzyme from the California poppy *Eschscholzia californica*
K. Hauschild, H.H. Pauli and T.M. Kutchan **473–478**

A tobacco flower-specific gene encodes a polyphenol oxidase
M.H.S. Goldman, J. Seurinck, M. Marins, G.H. Goldman and C. Mariani **479–485**

Transcripts of a gene, encoding a small GTP-binding protein from *Fagus sylvatica*, are induced by ABA and accumulated in the embryonic axis of dormant seeds
C. Nicolás, G. Nicolás and D.Rodríguez **487–491**

Characterisation of transcript initiation sites in ribosome-deficient barley plastids
T. Hübschmann and T. Börner **493–496**

Sequence announcement **497–498**

Vol. 36, No. 4, March (I) 1997

Impairment of tapetum and mitochondria in engineered male-sterile tobacco plants
M. Hernould, Suharsono, E. Zabaleta, J.P. Carde, S. Litvak, A. Araya and A. Mouras **499–508**

Expression of the tobacco anionic peroxidase gene is tissue-specific and developmentally regulated
K.L. Klotz, T.-T.Y. Liu, L. Liu and L.M. Lagrimini **509–520**

Soluble, highly fluorescent variants of green florescent protein (GFP) for use in higher plants
S.J. Davis and R.D. Vierstra **529–539**

Characterization of a *Sorghum bicolor* gene family encoding putative protein kinases with a high similarity to the yeast SNF1 protein kinase
F. Annen and J. Stockhaus **529–539**

Changes in the levels of seven proteins involved in polypeptide folding and transport during endosperm development of two barley genotypes differing in storage protein localisation
S. Møgelsvang and D.J. Simpson 541–552

RNasel from *Escherichia coli* cannot substitute for S-RNase in rejection of *Nicotiana plumbaginifolia* pollen
B. Beecher, J. Murfett and B.A. McClure 553–563

Analysis of the expression of two thiolprotease genes from daylily (*Hemerocallis* spp.) during flower senescence
C. Guerrero, M. de La Calle, M.S. Reid and V. Valpuesta 565–571

U-richness is a defining feature of plant introns and may function as an intron recognition signal in maize
C.H. Ko, V. Brendel, R.D. Taylor and V. Walbot 573–583

Site-specific mutations of the N-terminal threonines in the D1 protein affects photoautotrophic growth but not D1 protein stability in *Synechocystis* 6803
G. Salih and C. Jansson 585–591

Transcripts of maize *RbcS* genes accumulate differentially in C_3 and C_4 tissues
R.M. Ewing, G.I. Jenkins and J.A. Langdale 593–599

Expression of fission yeast *cdc25* alters the frequency of lateral root formation in transgenic tobacco
R.S. McKibbin, N.G. Halford and D. Francis 601–612

Structure and expression of several bean (*Phaseolus vulgaris*) nuclear transfer RNA genes: relevance to the process of tRNA import into plant mitochondria
D. Ramamonjisoa, S. Kauffmann, N. Choisne, L. Maréchal-Drouard, G. Green, H. Wintz, I. Small and A. Dietrich 613–625

Vol. 36, No. 5, March (II) 1998

Ca^{2+}/phospholipid-binding (C_2) domain in multiple plant proteins: novel components of the calcium-sensing apparatus
J. Kopka, C. Pical, A.M. Hetherington, B. Müller-Röber 627–637

A –308 deletion of the tomato *LAP* promoters is able to direct flower-specific and MeJA-induced expression in transgenic plants
O.J. Ruíz-Rivero, S. Prat 639–648

Promoter recognition by a cyanobacterial RNA polymerase: *in vitro* studies with the *Calothrix* sp. PCC 7601 transcriptional factors RcaA and RcaD
G. Schyns, L. Jia, T. Coursin, N. Tandeau de Marsac, J. Houmard 649–659

Rice proteins that bind single-stranded G-rich telomere DNA
J.H. Kim, W.T. Kim, I.K. Chung 661–672

High-level expression of a viscotoxin in *Arabidopsis thaliana* gives enhanced resistance against *Plasmodiophora brassicae*
S. Holtorf, J. Ludwig-Müller, K. Apel, H. Bohlmann 673–680

Cloning of tobacco genes that elicit the hypersensitive response
E.E. Karrer, R.N. Beachy, C.A. Holt 681–690

NAD^+-dependent isocitrate dehydrogenase from *Arabidopsis thaliana*. Characterization of two closely related subunits
R.H. Behal, D.J. Oliver **691–698**

Molecular cloning and mRNA localization of tomato pollen profilin
L.-X. Yu, J. Nasrallah, R. Valenta, M.V. Parthasarathy **699–707**

The 38 kDA chlorophyll *a/b* protein of the prokaryote *Prochlorothrix hollandica* is encoded by a divergent *pcb* gene
G.W.M. van der Staay, N. Yurkova, B.R. Green **709–716**

Molecular characterization of a single mitochondria-associated double-stranded RNA in the green alga *Bryopsis*
R. Koga, T. Fukuhara, T. Nitta **717–724**

A higher-plant type ζ-carotene desaturase in the cyanobacterium *Synechocystis* PCC6803
J. Breitenbach, B. Fernández-González, A. Vioque, G. Sandmann **725–732**

Induction of *AGAMOUS* gene expression plays a key role in ripening of tomato sepals *in vitro*
B. Ishida, S.M. Jenkins, B. Say **733–739**

Identification of UV/blue light-response elements in the *Arabidopsis thaliana* chalcone synthase promoter using a homologous protoplast transient expression system
U. Hartmann, W.J. Valentine, J.M. Christie, J. Hays, G.I. Jenkins, B. Weisshaar **741–754**

A novel aromatic alcohol dehydrogenase in higher plants: molecular cloning and expression
D. Goffner, J. Van Doorsselaere, N. Yahiaoui, J. Samaj, J. Grima-Pettenati, A.M. Boudet **755–765**

Molecular evolution of *cdc2* pseudogenes in spruce (*Picea*)
A. Kvarnheden, V.A. Albert, P. Engström **767–774**

Short communications

MtENOD16 and 20 are members of a family of phytocyanin-related early nodulins
E.A. Greene, M. Erard, A. Dedieu, D.G. Barker **775–783**

The capsanthin-capsorubin synthase gene: a candidate gene for the *y* locus controlling the red fruit colour in pepper
V. Lefebvre, M. Kuntz, B. Camara, A. Palloix **785–791**

Molecular characterization of a cytokinin-inducible periwinkle protein showing sequence homology with pathogenesis-related proteins and the Bet v 1 allergen family
S. Carpin, S. Laffer, F. Schoentgen, R. Valenta, J.-C. Chénieux, M. Rideau, S. Hamdi **793–798**

Root-specific expression of a *Zea mays* gene encoding a novel glycine-rich protein, zmGRP3
M.L. Goddemeier, D. Wulff, G. Feix **799–802**

A putative *rolB* gene homologue of the *Agrobacterium rhizogenes* TR-DNA has different morphogenetic activity in tobacco than *rolB*
K. Lemcke, T. Schmülling **803–808**

Sequence announcements **809**

Vol. 36, No. 6, April 1998

AIR synthetase in cowpea nodules: a single gene product targeted to two organelles?
P.M.C. Smith, A.J. Mann, D.E. Goggin, C.A. Atkins **811–820**

The genomic organization of non-LTR retrotransposons (LINEs) from three *Beta* species and five other angiosperms
S.E. Kubis, J.S. Heslop-Harrison, C. Desel, T. Schmidt **821–831**

The expression of a peroxiredoxin antioxidant gene, *AtPer1*, in *Arabidopsis thaliana* is seed-specific and related to dormancy
C. Haslekås, R.A.P. Stacy, V. Nygaard, F.A. Culiáñez-Macià, R.B. Aalen **833–845**

The expression of a grapefruit gene encoding an isoflavone reductase-like protein is induced in response to UV irradiation
A. Lers, S. Burd, E. Lomaniec, S. Droby, E. Chalutz **847–856**

Sucrose-phosphate synthase steady-state mRNA increases in ripening kiwifruit
G. Langenkämper, R. McHale, R.C. Gardner, E. MacRae **857–869**

Expression patterns of *GASA* genes in *Arabidopsis thaliana*: the *GASA4* gene is up-regulated by gibberellins in meristematic regions
D. Aubert, M. Chevillard, A.-M. Dorne, G. Arlaud, M. Herzog **871–884**

Molecular cloning of a novel heat induced/chilling tolerance related cDNA in tomato fruit by use of mRNA differential display
D.K. Kadyrzhanova, K.E. Vlachonasios, P. Ververidis, D.R. Dilley **885–895**

Characterisation and promoter analysis of the *Arabidopsis* gene encoding high mobility group protein HMG-I/Y
R. Gupta, C.I. Webster, J.C. Gray **897–907**

Apple messenger RNAs related to bacterial lignostilbene dioxygenase and plant SAUR genes are preferentially expressed in flowers
B. Watillon, R. Kettmann, A. Arredouani, J.-F. Hecquet, P. Boxus, A. Burny **909–915**

Expression of the *Zinnia TED3* promoter in developing tracheary elements of transgenic *Arabidopsis*
M. Igarashi, T. Demura, H. Fukuda **917–927**

Short communications

The Calvin cycle enzyme sedoheptulose-1,7-biosphosphatase is encoded by a light-regulated gene in *Chlamydomonas reinhardtii*
D. Hahn, C. Kaltenbach, U. Kück **929–934**

Isolation and characterization of a heat-induced gene, *hcit2*, encoding a novel 16.5 kDa protein: expression coincides with heat-induced tolerance to chilling stress
S. Adnan, L. Susan, D. Weiss **935–939**

Instructions to authors **941–944**

Contents of Volume 36 **945–952**

Author index Volume 36 **953–954**